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(54) ORGANIC ELECTROLUMINESCENT ELEMENT MATERIAL AND ORGANIC ELECTROLUMINESCENT ELEMENT USING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To produce an electroluminescent(EL) element of high brightness, luminous efficiency and reliability with reduced deterioration in luminescence by using an electron injection material with good electron transport property and high injection efficiency from a cathode.

SOLUTION: An organic EL material of the formula. Further, in an organic EL element equipment with a plurality of organic compound thin layers containing a luminous layer or a combination of the luminous layer and an electron injection layer between a pair of electrodes, one or more layers contain one or more kinds of this organic EL material. In the formula, X is O, S, >SO₂, >C=O, >C=S, >C=(CN)2, >C=(CN)A (A represents a halogen), C=S=O, C=N-CN, C=N-R1 (R1 represents H, a halogen, an alkyl group, an aryl group, a cycloalkyl group, a heterocyclic group), R2—O—R3 (R2 and R3 are each an alkylene or an arylene group), styryl group, tolan group or butadiene group; Y1—Y4 are the same as R1 but all of Y1—Y4 are not hydrogen.

